TREES AND SHRUBS

a guide to planning your planting project

SaskPower
Shand Greenhouse

SaskPower is committed to protecting the environment while operating in a manner that will, to the greatest extent possible, conserve natural resources, maintain natural systems and preserve natural diversity.

SaskPower Shand Greenhouse supports our environmental objectives through programs that increase awareness of the relationship between electrical generation and the environment. It also fosters environmental protection through the propagation of native vegetation.

Each year, we produce and distribute nearly 500,000 tree and shrub seedlings free of charge to school groups, conservation organizations and individuals interested in enhancing and preserving Saskatchewan's environment.

Let us help you with your planting needs. We hope you will find the information within these pages informative and inspiring.

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SaskPower
Shand Greenhouse

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WHY PLANT SEEDLINGS?

Planting, protecting and maintaining trees and shrubs can help us to:

- sequester CO_2;
- enhance the appearance of a particular area;
- improve wildlife habitat by providing shelter and food;
- reduce soil and wind erosion; and
- reclaim marginal or disturbed tracts of land.

WHERE SHOULD I PLANT?

Once you have decided why you are planting seedlings, consider the site(s) in detail because this could affect the design of your project and the species you select. Evaluate all possible limitations, including:

- topography and space;
- water supply;
- susceptibility to flooding;
- salinity (salt content) in the soil;
- any previous chemical applications, including sterilants;
- location of gas, power and telephone lines and poles;
- restrictive legislation, including distance from municipal or provincial highways;
- ease of access, especially by machines where necessary;
- potential vandalism and pest problems; and
- climate characteristics of the area.

Soil sampling can be beneficial, especially if you are unfamiliar with the site. When you have determined both the limitations and potential advantages of the site, your project design and selection of species can begin.

WHY IS DESIGN IMPORTANT?

The design of a planting project is important to achieving your original purpose. Specific purposes will call for specific design characteristics that can help accomplish your goals. For example:

- A planting intended to attract **wildlife** would be designed with an undulating or curved margin to improve the amount of edge. This refers to the area where two habitats, such as grassland and shrubs, meet. The more edge available, the more wildlife will use the habitat. Edge also provides a degree of protection to wildlife as they feed along these two merging habitats.

  A wildlife planting design should also include a greater variety of species and more fruit-bearing species than would be required for other purposes and designs, as you will want to provide food as well as shelter.

- A **shelterbelt** planting tends to be designed in longer, straighter lines, to enable fieldwork with large equipment.

  Acting as a windbreak, this type of planting can be designed with fewer species than the wildlife planting. It is created by planting longer continuous rows of single species, and by considering characteristics including ability to trap snow, density, height and volume.

3

SPECIES SUITED TO SASKATCHEWAN ZONES

(REFER TO MAP ON NEXT PAGE)

R
Recommended

S
Satisfactory

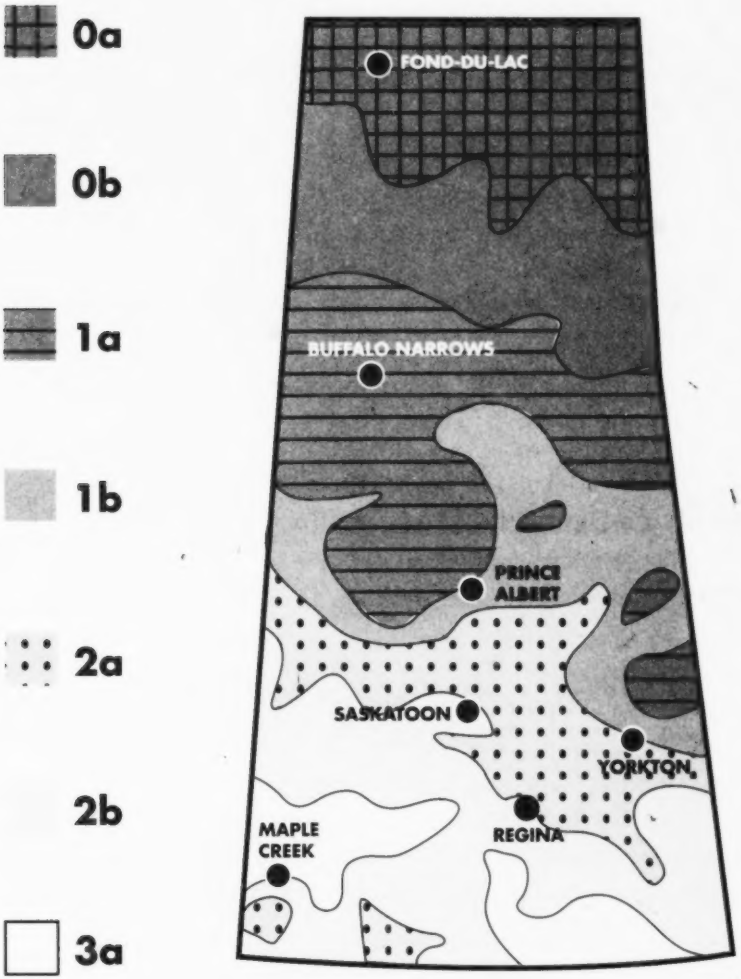
U
Unsatisfactory

ZONES	0a	0b	1a	1b	2a	2b	3a
Buffaloberry	U	U	U	S	**R**	**R**	**R**
Bur oak	U	U	U	S	**R**	S	S
Chokecherry	S	S	S	**R**	**R**	**R**	**R**
Colorado blue spruce	S	S	**R**	**R**	**R**	S	**R**
Eastern red cedar	S	S	S	S	S	S	S
Green ash	S	S	S	**R**	**R**	**R**	**R**
Jack pine	**R**	**R**	**R**	S	S	U	U
Lodgepole pine	S	S	S	S	**R***	U	U
Manitoba maple	S	S	S	S	**R**	S	**R**
Paper birch or White birch	**R**	**R**	**R**	**R**	S	U	U
Pincherry	S	S	S	**R**	**R**	S	S
Plains cottonwood	S	S	S	**R**	**R**	**R**	**R**
Red elder	U	U	U	S	S	S	S
Red Osier dogwood	**R**	**R**	**R**	**R**	**R**	**R**	**R**
Russian olive	U	U	S	S	**R**	**R**	**R**
Saskatoon	S	S	S	**R**	**R**	S	**R**
Scot's pine	**R**	**R**	**R**	**R**	**R**	**R**	**R**
Seabuckthorn	U	U	U	S	**R**	S	**R**
Siberian crab	S	S	S	**R**	**R**	**R**	**R**
Siberian larch	**R**	**R**	**R**	**R**	**R**	**R**	**R**
Trembling aspen or White poplar	**R**	**R**	**R**	**R**	**R**	S	**R**
Villosa lilac	S	S	S	**R**	**R**	S	S
Western sandcherry	U	U	U	S	S	S	S
White spruce	**R**	**R**	**R**	**R**	S	S	S
Willow (acute)	**R**	**R**	**R**	**R**	S	S	**R**
Wood's rose	S	S	S	**R**	**R**	**R**	**R**

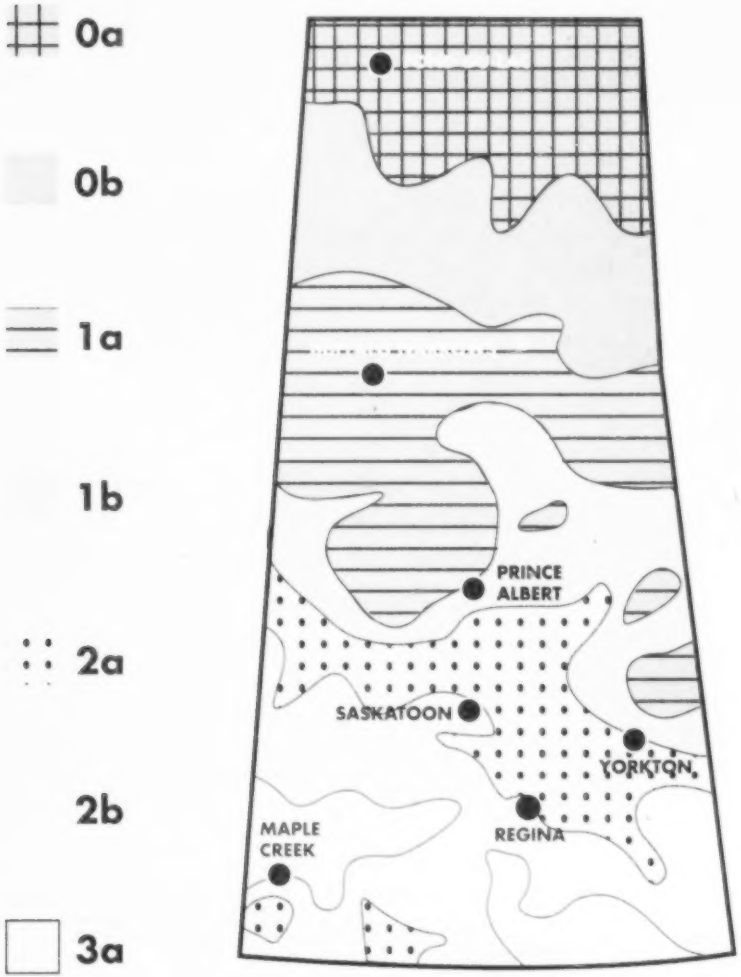
*Cypress Hills only

This table provides an indication of suitability based on average conditions of the zones and is not intended to represent a guarantee of survival.

SPECIES SUITED TO SASKATCHEWAN ZONES MAP



SPECIES SUITED TO SASKATCHEWAN ZONES MAP



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WHAT KINDS OF SEEDLINGS SHOULD I USE?

Purpose, design, limitations and potential advantages of your site are all factors that affect the species of seedlings you will select to achieve a successful planting project.

Knowing what will grow best in your site can be a challenge. Begin by looking around in your project area to observe what is growing well. Various native and non-native species are available for planting in Saskatchewan. Generally, plants that are moved outside their geographic range do poorly – especially when adverse conditions exist. A jack pine, for example, if planted in Swift Current, would not be expected to do as well as it would in its native habitat in Prince Albert.

For detailed information about conditions required by certain species, and about species limitations, please refer to the species guide beginning on page 9.

HOW DO I ORDER MY SEEDLINGS?

When you have designed your planting project and decided on the appropriate species, you can order seedlings from a variety of public and private agencies. They include:

- SaskPower Shand Greenhouse: Built in 1991, our greenhouse utilizes some of the excess heat from nearby Shand Power Station to grow approximately 500,000 seedlings annually. These predominantly native trees and shrubs find root throughout Saskatchewan in conservation, wildlife habitat and coal-mined land reclamation projects. Seedlings are available for non-landscaping environmental projects – free of charge – on a first-come, first-served basis so it's best to apply early. For an application form, or to find out if your project is eligible, please visit our website at www.saskpower.com or call us at 634-9771 or toll-free at 1-866-SPTREES (1-866-778-7337).

- PFRA: This federal organization supplies free seedlings to bonafide farmers for shelterbelt and wildlife plantings.

- Saskatchewan Nursery Trades Association: This organization is comprised of many of this province's commercial nursery and garden centre operations. They can supply names of businesses selling landscape species in your area.

HOW ARE SASKPOWER SHAND GREENHOUSE SEEDLINGS PREPARED?

SaskPower Shand Greenhouse container seedlings are unique. The potting medium remains attached to the roots throughout shipping and handling, reducing transplant shock and giving your seedlings a good start.

Seedlings are grown in reusable styrofoam containers. As the roots grow out of the bottom of their containers, exposure to air causes natural pruning. At harvest time, seedlings are pulled from their containers. By this time, the roots have bound the potting medium into a semi-solid plug.

The seedlings are bundled into groups of five or ten and the root plugs are wrapped in plastic. The wrapped seedlings are boxed and stored in freezers over winter. In the spring, the dormant seedlings are shipped to distribution points across the province.

HOW DO I CARE FOR SEEDLINGS ON ARRIVAL?

Seedlings should be planted immediately upon arrival. If planting is delayed for a few days, find a cool, dark place to store your boxes. Delays in planting seedlings beyond a few days can cause deterioration in seedling quality.

Remember, your seedling has been stored in a freezer over the winter. Prolonged exposure to warmer temperatures will cause seedlings to start leafing out. Your planting success will increase if seedlings can be planted immediately, while they're still dormant.

7 HOW DO I PLANT MY SEEDLINGS?

You can plant either by hand or with a tree planter. Keep in mind that all roots must be buried and covered with soil.

- planting with a tree planter:
  - cover the root plugs with wet burlap to prevent drying – do not dip them in water or they will fall apart;
  - plant seedlings upright with one centimetre of soil covering the root plug – do not expose any of the root plug or it will quickly dry out;
  - pack soil firmly around the seedling immediately after planting to ensure good soil-to-root contact and work out any air spaces that may surround the roots; and
  - water seedlings immediately.

- planting by hand:
  - dig a hole larger than the root plug – hold the tree erect in the hole and cover the root plug with one centimetre of soil;
  - pack soil firmly around seedling and leave a shallow depression around each seedling to collect water; and
  - water seedlings immediately.

Suggested spacing for tree and shrub species:

- within rows:
  - coniferous trees (e.g. spruces, pines, larch) 3.5 metres (12 feet)
  - deciduous trees (e.g. maple, green ash, poplar, willow) 2.5 metres (8 feet)
  - shrubs (e.g. buffaloberry, chokecherry, lilac) 1 metre (3 feet)

- between rows:
  - between adjacent deciduous rows 5 metres (16 feet)
  - between adjacent deciduous and coniferous rows 6 metres (20 feet)
  - between adjacent coniferous rows 5 metres (16 feet)

Denser stocking might be appropriate for block forest and wildlife planting projects:

- 1.83 metres (6 feet) by 1.83 metres = 2,965 trees/hectare
- 2.44 metres (8 feet) by 2.44 metres = 1,729 trees/hectare

WHAT KIND OF MAINTENANCE IS NECESSARY?

All your planning and design work could be wasted without careful consideration of post-planting maintenance. Maintenance of the seedlings for the first three to five years can mean the difference between project success and failure.

You can grow a healthy tree if you:

- remember that seedlings will benefit from watering, especially if dry conditions persist – once a week is adequate if possible.
- keep weeds and grass away from seedlings as they steal moisture and nutrients – control can be accomplished in various ways:
  - chemicals are available for use in site preparation and spring weed control;
  - cultivation, discing and rototilling are also effective;
  - hoeing may be the only option between trees and in less accessible areas;
  - organic and inorganic mulches can be used around seedlings and between rows to suppress weeds and retain moisture.
- mulch around the base of trees to give your seedlings a stable root environment – one that is cooler and contains more moisture; mulch also reduces competition from weeds and encroaching grasses.
- tackle pest problems by taking appropriate measures to reduce damage – consult with your local agriculture representative or nursery to determine what options may be available if problems arise.
- transplant seedlings where necessary. If seedlings are too small for their intended location, plant them about 0.3 metres (one foot) apart in a cultivated bed or garden. Once seedlings are large enough, they can be dug out and transplanted to the intended site. Seedlings that are left for a number of years, especially faster growing species, may not transplant successfully.

9 BUFFALOBERRY

Shepherdia argentia Nutt.

Very drought hardy and salt tolerant; commonly used in wildlife plantings and for shelterbelts.

Type of tree	broadleaf (native shrub)
Bark (colour, texture)	lateral branches have sharp spines at tip and are almost perpendicular to main branch
Leaves (colour, shape, size)	silvery; 2 to 5 centimetres in length
Form	bushy shrub with irregular growth habit
Height	4 to 5 metres
Growth rate	medium
Fruit and flowers	small yellow flowers appear late June or early July; male and female flowers borne on separate plants; female plants bear orange-red berry-like fruit
Soil	performs best in moist well-drained sites; good alkali tolerance
Limitations	suckers freely – forms dense irregular hedge that may be considered undesirable

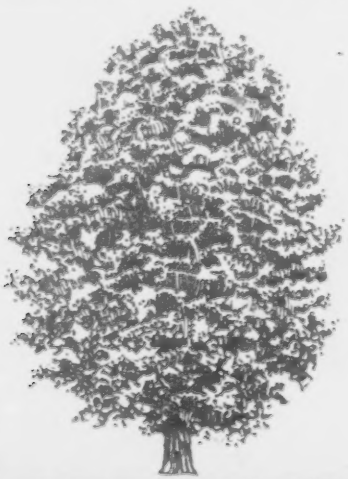
BUR OAK

Quercus macrocarpa Michx.

10

Drought tolerant; moderately shade tolerant.

Type of tree	broadleaf (native)
Bark (colour, texture)	gray; flaky, becoming deeply furrowed as tree matures
Leaves (colour, shape, size)	dark shiny green upper surface, paler and hairy beneath; deeply cut with 7 to 9 rounded lobes
Form	small tree with rounded crown supported by crooked and gnarled branches
Height	15 to 20 metres
Growth rate	medium (but slow to establish)
Fruit and flowers	acorns, 2 to 2.5 centimetres long with hairy fringed cap
Soil	grows best in deep, rich bottom lands, but is adapted to wide range of soils
Limitations	on dry sites it may be reduced to small scrubby tree

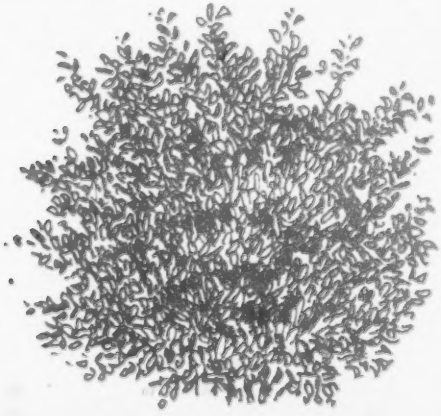


11 CHOKECHERRY

Prunus virginiana L. var. melanocarpa (Sarg.)

Moderately drought hardy; provides food source for birds and deer; suitable for shelterbelts.

Type of tree	broadleaf (native shrub)
Bark (colour, texture)	dark grayish-brown; smooth
Leaves (colour, shape, size)	dark green; 6 to 12 centimetres long; oval, tapered to sharp tip; finely toothed margins; leaf arrangement is alternate
Form	spreading shrub or small tree
Height	7 metres
Growth rate	fast
Fruit and flowers	white flowers form dense cluster, maturing into crimson to black berry-like fruit in late summer; fruit makes excellent jelly and wine
Soil	grows best on moist well-drained soils; fair alkali tolerance
Limitations	performs poorly in arid southwestern region of province; shade intolerant; cultivation required to control suckering



COLORADO BLUE SPRUCE

12

Picea pungens Engelm.

Drought tolerant, winter hardy and resistant to winter browning; provides nesting and roosting cover for small birds; commonly used on inside row of shelterbelt plantings.

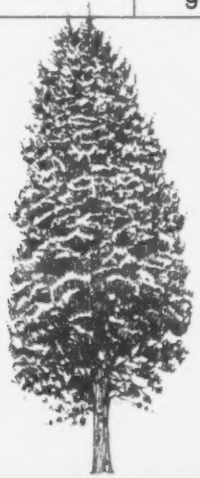
Type of tree	coniferous (introduced)
Bark (colour, texture)	light ash-brown; wrinkled
Leaves (colour, shape, size)	green to blue; needle shaped; stiff, very sharp and borne singly on stem; 2 to 3 centimetres in length
Form	pyramidal
Height	25 to 30 metres
Growth rate	slow to medium
Fruit and flowers	winged seeds produced in straw-coloured cones, from 7 to 10 centimetres long; mature in August
Soil	clay or clay-loam soils preferred, but sandy soils tolerated; poor alkali tolerance
Limitations	does not perform well on unprotected sites; will not tolerate flooding; some protection should be provided during establishment

13 EASTERN RED CEDAR

Juniperus virginiana L.

Unproven in Saskatchewan; has had success in North Dakota and Plains states; branchlets turn coppery or reddish-brown in winter; commonly used as an ornamental.

Type of tree	coniferous (introduced)
Bark (colour, texture)	thin; fibrous; reddish-brown; separating into long, narrow shreddy strips
Leaves (colour, shape, size)	dark bluish-green; scale-like; overlapping and covering twigs in four rows forming four-sided mini-branches
Form	pyramidal, with dense crown of short, slender, ascending branches
Height	5 to 10 metres (in native range)
Growth rate	slow
Fruit and flowers	berry-like cones, 2 to 7 millimetres in diameter; ripen in early fall and contain one or two wingless seeds
Soil	adapted to a variety of sites, but grows best on sandy loam soils
Limitations	generally unproven in Saskatchewan



GREEN ASH

14

Fraxinus pennsylvanica Marsh.

Very drought tolerant and winter hardy; excellent field shelterbelt tree; seeds and twigs provide good food source for birds and animals.

Type of tree	broadleaf (native)
Bark (colour, texture)	brownish gray; shallow fissures
Leaves (colour, shape, size)	compound leaf, consisting of 7 oval leaflets, 8 to 14 centimetres long; leaf arrangement is opposite
Form	narrow, oval crowned, upright tree
Height	6.5 to 15 metres
Growth rate	medium
Fruit and flowers	inconspicuous male and female flowers found on separate trees; female flowers develop into narrow winged seeds (samara) 2.5 to 5 centimetres long
Soil	performs well on most sites, but does best on well-drained soils; fair to good alkali tolerance
Limitations	grows slowly under dry conditions; leaves appear in late spring, drop in early fall

15

JACK PINE

Pinus banksiana Lamb.

Well adapted to surviving fires, which open the cone to release seeds.

Type of tree	coniferous (native)
Bark (colour, texture)	brown to gray, darkening with age; flaky surface becomes furrowed at maturity
Leaves (colour, shape, size)	yellow-green; needle shaped; 2 to 5 centimetres long; twisted, stiff, sharp; borne in groups of two on the stem
Form	branchy with irregular crown
Height	15 to 20 metres
Growth rate	medium
Fruit and flowers	seeds borne in hard, knobby persistent cones; 5 to 7 centimetres long; curved in toward supporting branch; mature after two years
Soil	common on a variety of sites; best growth in sandy soils; tolerates acidic conditions
Limitations	susceptible to dwarf mistletoe disease which attacks tree, producing thick, tufted growths of small branches (witches' brooms)

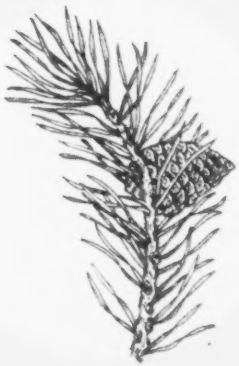
LODGEPOLE PINE

16

Pinus contorta var. latifolia Engelm.

Naturally confined to Cypress Hills in Saskatchewan, its most easterly location in Canada.

Type of tree	coniferous (native)
Bark (colour, texture)	brownish to gray or blackish on older trees; rough, scaly
Leaves (colour, shape, size)	needle shaped; 3 to 7 centimetres long; twisted, sharp; borne in groups of two on stem
Form	tall, slender, narrow crowned tree
Height	15 to 30 metres
Growth rate	slow to medium
Fruit and flowers	winged seeds produced in hard, straight 2.5 to 5 centimetre long cones; cone scales bear curved prickle; cones take up to two years to mature and persist on tree for many years
Soil	found in a variety of soil types, but best growth occurs on well-drained loam sites
Limitations	species very intolerant of shade and competition; poor alkali tolerance

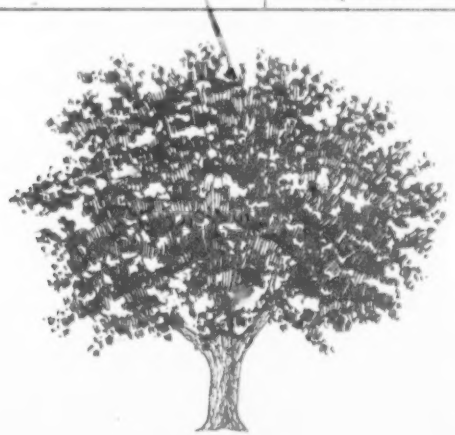


17 MANITOBA MAPLE

Acer negundo L.

Provides food and shelter for birds and wildlife throughout year; can be tapped for syrup production.

Type of tree	broadleaf (native)
Bark (colour, texture)	brownish gray to black; furrows with age
Leaves (colour, shape, size)	light green; compound with 3 to 7 irregularly lobed leaflets; leaf arrangement is opposite
Form	open spreading crown; main trunk tends to divide near ground giving appearance of multiple-stem tree
Height	6.5 to 14 metres
Growth rate	fast
Fruit and flowers	male and female flowers borne in clusters on separate trees; develop into straw-coloured, paired, winged seeds
Soil	performs best in well drained, moist areas
Limitations	not drought tolerant; may experience die-back under dry conditions; prolific seed production can result in weed problems



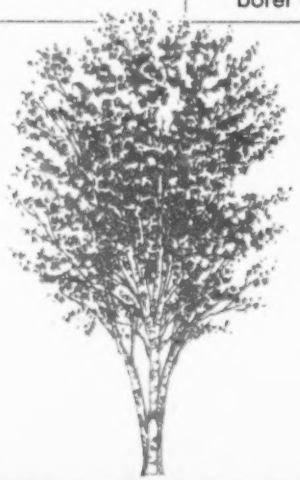
PAPER BIRCH OR WHITE BIRCH

18

Betula papyrifera Marsh.

Saskatchewan's provincial tree; provides food and shelter for birds and browse for moose and deer.

Type of tree	broadleaf (native)
Bark (colour, texture)	reddish-brown on young trees, becoming chalky, white with age; thin; smooth; peels easily into sheets
Leaves (colour, shape, size)	triangular or egg-shaped; 8 centimetres long; toothed margins except for about 1.5 centimetres on either side of leaf stem
Form	narrow; oval; open crown with slender trunk
Height	6 to 20 metres
Growth rate	fast
Fruit and flowers	3 to 4 centimetres long, winged seeds found in catkins which hang from branches
Soil	does best on moist, well-drained sandy or silty loam soils
Limitations	shade intolerant; susceptible to bronze birch borer and birch die-back

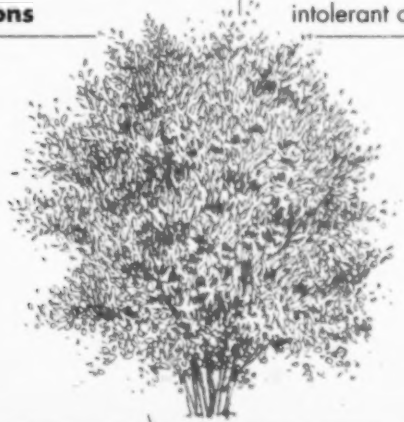


19 PINCHERRY

Prunus pensylvanica L.f.

Flesh of cherry is only edible part.

Type of tree	broadleaf (native)
Bark (colour, texture)	dark reddish-brown with large widely-spaced orange powdery horizontal markings on mature trees; smooth; shiny
Leaves (colour, shape, size)	shiny; yellowish-green; often turning purplish-red in autumn; lance-shaped; 3 to 10 centimetres long, gradually tapering to slender sharp tip; margins have uneven teeth
Form	small tree; shrub on unfavorable sites
Height	1 to 5 metres
Growth rate	fast
Fruit and flowers	tassel-like cluster of white flowers appearing when leaves are half grown; bright red berries, 6 to 8 millimetres across; sour edible flesh; ripening in late July to early September
Soil	grows best in well drained sites; found in areas recently cleared and along rivers in prairies
Limitations	intolerant of shade



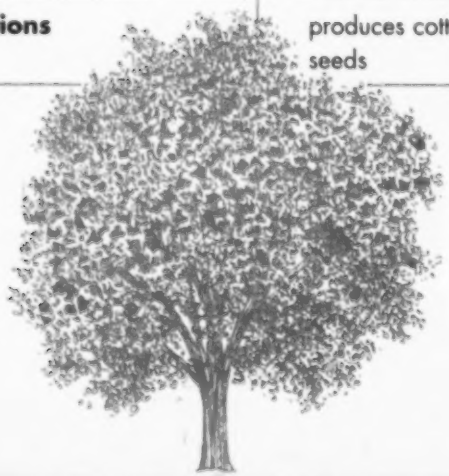
PLAINS COTTONWOOD

20

Populus deltoides Bartr. Ex. Marsh.

One of the fastest growing native trees; parent of many poplar selections; often planted where fast growth is main requirement.

Type of tree	broadleaf (native)
Bark (colour, texture)	yellowish gray; smooth; becomes dark gray and deeply furrowed with age
Leaves (colour, shape, size)	upper surface bright shiny green, slightly paler underneath; often pendulous; triangular; 5 to 10 centimetres long; 5 to 15 rounded teeth per side and rounded base;
Form	medium to large; can have large branches forming 45 degree angle with trunk
Height	30 metres
Growth rate	very fast
Fruit and flowers	long catkins; 15 to 25 centimetres long; seed capsules oval; 8 to 12 millimetres long; split into 3 or 4 parts when mature
Soil	prefers rich moist soils; commonly found in prairies along water courses
Limitations	produces cottony bundles of wind-dispersed seeds



21

RED ELDER

Sambucus racemosa L.

Very fast growing; excellent wildlife species, providing food for songbirds, upland game birds and squirrels.

Type of tree	broadleaf (introduced shrub)
Bark (colour, texture)	gray and smooth with yellowish-brown pith (centre)
Leaves (colour, shape, size)	dark green; compound leaves have 3 to 7 toothed leaflets.
Form	bushy shrub with arching branches
Height	2 to 3 metres
Growth rate	very fast
Fruit and flowers	cream-coloured flowers in clusters; develop into clusters of showy red berries
Soil	prefers moist, well-drained soils; tolerates some saturation
Limitations	may experience winter die-back and require pruning to remove dead wood

RED OSIER DOGWOOD

22

Cornus stolonifera Michx.

Shade tolerant; provides cover and food for wildlife and birds.

Type of tree	broadleaf (native shrub)
Bark (colour, texture)	bright reddish twigs and branchlets; smooth; very conspicuous in winter
Leaves (colour, shape, size)	light green; oval; smooth; veins strongly tend to follow margins toward leaf tip; leaf arrangement opposite
Form	arching bushy shrub
Height	1 to 3 metres
Growth rate	medium to fast
Fruit and flowers	white flowers appear in flat-topped cluster in early June; followed by dull white berries
Soil	adapted to both wet and dry sites and various soil types
Limitations	does not do well on crid sites; poor alkali tolerance

23 RUSSIAN OLIVE

Eleagnus angustifolia.

Drought resistant; very good wildlife habitat.

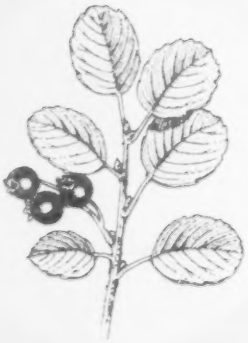
Type of tree	broadleaf (introduced shrub)
Bark (colour, texture)	brown; peels off in long strips
Leaves (colour, shape, size)	dull silvery green; long; narrow
Form	upright; thorny
Height	6 to 7 metres
Growth rate	medium
Fruit and flowers	small, fragrant, yellow flowers produced in June; silvery berry produced in early fall
Soil	grows easily in many soil types; very good alkali tolerance
Limitations	susceptible to snow breakage, winter kill and blight

SASKATOON

Amelanchier alnifolia Nutt.

Drought tolerant once established; thrives on both sunny and partially shaded sites; provides both food and cover for birds and wildlife.

Type of tree	broadleaf (native shrub)
Bark (colour, texture)	grayish-brown
Leaves (colour, shape, size)	broadly oval to almost circular; 2.5 to 7 centimetres in length; toothed margins
Form	upright shrub
Height	2 to 3 metres
Growth rate	medium
Fruit and flowers	white flowers in early spring; purple berry-like fruit ripens in July
Soil	grows well on wide variety of soils; moderately tolerant of salinity
Limitations	difficult to establish; susceptible to insect and disease problems

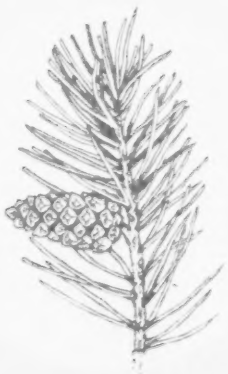


25 SCOT'S PINE

Pinus sylvestris L.

Very winter hardy but has tendency to winter brown, particularly on dry exposed sites; commonly used on inside row of farmstead shelterbelts.

Type of tree	coniferous (introduced)
Bark (colour, texture)	orange-red; flaky when mature
Leaves (colour, shape, size)	needle shaped; 3 to 7 centimetres long; twisted; borne in groups of two per stem
Form	erect; widely spaced branches
Height	20 metres
Growth rate	fast
Fruit and flowers	winged seeds produced in hard, knobby light brown cones; 3 to 5 centimetres; cones open for seed dispersal then drop
Soil	well adapted to dry, sandy soils; fair alkali tolerance
Limitations	will not tolerate flooding; performs poorly in exposed locations; limited value for wildlife but young trees may be browsed by deer



SEABUCKTHORN

Hippophae rhamnoides L.

Berries start to ripen end August; commonly used for juice and jellies.

Type of tree	broadleaf (introduced shrub)
Bark (colour, texture)	branches gray; spiny
Leaves (colour, shape, size)	light green above; silvery-white underneath; lance-shaped
Form	shrub
Height	2 to 5 metres
Growth rate	medium
Fruit and flowers	small, yellowish flowers appear in spring before leaves; both male and female shrubs are required to produce the yellow/orange berry fruit; fruit remains on shrubs throughout winter
Soil	adapted to wide range of soil types; performs well in sandy soil; very tolerant of weather extremes; has low nitrogen requirements
Limitations	suckers profusely; both male and female plants are needed for fruit production

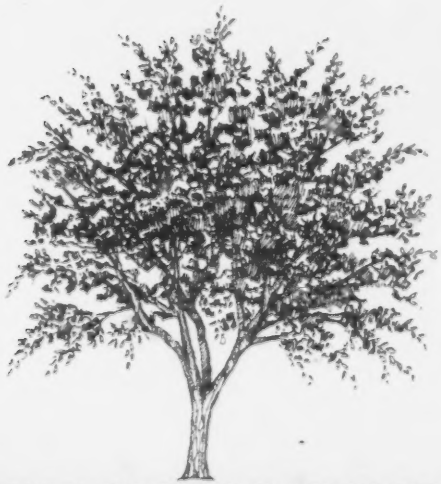
27

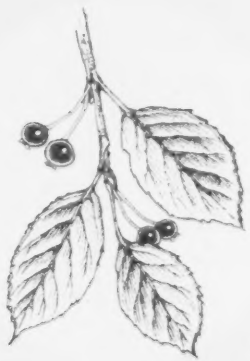
SIBERIAN CRAB

Malus baccata (L.) Borkh.

Well adapted to variety of climatic conditions; provides high quality cover and nesting sites for birds; provides excellent browse for rabbits, whitetail and mule deer; fruit persists well into winter providing food for birds.

Type of tree	broadleaf (introduced)
Bark (colour, texture)	reddish-brown
Leaves (colour, shape, size)	oval; coarsely serrated edges
Form	large spreading crown
Height	up to 9 metres in favorable conditions
Growth rate	slow to medium
Fruit and flowers	white showy flowers in early spring; small berry-like red to yellow fruit
Soil	well adapted to variety of soils; fair alkali tolerance
Limitations	susceptible to fire blight





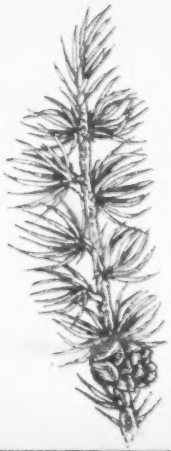
SIBERIAN LARCH

28

Larix sibirica Ledeb.

Slowly being introduced in prairies for ornamental and shelterbelt plantings; tends to be drought resistant.

Type of tree	coniferous (introduced)
Bark (colour, texture)	dark brown; scaly
Leaves (colour, shape, size)	light green; soft, turning golden in fall and shed before winter; needle-shaped; needles borne on dwarf twigs in clusters
Form	tall; slender; straight tapering trunk; narrow open crown
Height	20 metres
Growth rate	medium
Fruit and flowers	winged seeds borne in cones 2.5 to 5 centimetres long
Soil	generally does best on well-drained, light soils
Limitations	tends to leaf in early spring; looses needles in fall; appears dead during winter; poor alkali tolerance; protect during establishment



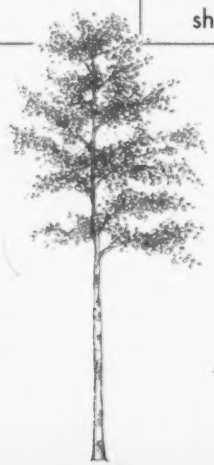
29

TREMBLING ASPEN OR WHITE POPLAR

Populus tremuloides Michx.

Saskatchewan's provincial tree.

Type of tree	broadleaf (native)
Bark (colour, texture)	white to greenish; turns gray and black streaked with age; smooth; white powder rubs off when touched
Leaves (colour, shape, size)	upper surface is dull; circular to heart shaped; finely toothed margins; leaf stalk is flattened causing leaves to flutter in wind
Form	slender; rounded crown
Height	20 to 25 metres
Growth rate	fast
Fruit and flowers	catkins appear in early spring; fruit formed in pods that split to release woolly seeds in May and June; male and female flowers are borne on separate trees
Soil	grows on almost every type of soil; does best on moist, well-drained, sandy or gravelly loams
Limitations	shade intolerant



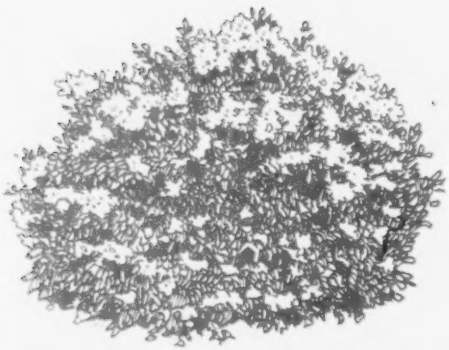
VILLOSA LILAC

Syringa villosa Vahl.

30

Non-suckering shrub; deep-rooted; grows well in all regions except arid southwest.

Type of tree	broadleaf (introduced shrub)
Bark (colour, texture)	grey
Leaves (colour, shape, size)	dark green; 5 to 15 centimetres long; 3 to 7 centimetres wide; heavily textured; leaf arrangement opposite
Form	wide, ball-shaped
Height	3 to 4 metres
Growth rate	medium
Fruit and flowers	pink flowers borne in clusters at ends of branches; blooms from mid to late June
Soil	performs best in well drained clay or loam soils; good salt tolerance
Limitations	does not perform well in sandy soils; will not tolerate poorly drained sites

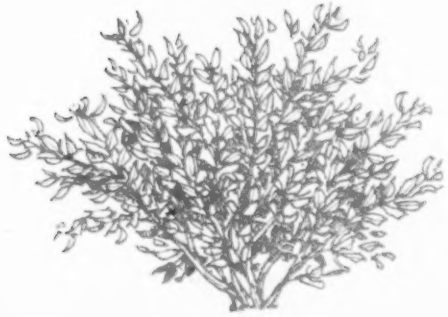


31 WESTERN SANDCHERRY

Prunus besseyi.

Excellent for wildlife habitat, providing both food and cover; drought resistant.

Type of tree	broadleaf (introduced shrub)
Bark (colour, texture)	reddish-brown; develops silver hue with age
Leaves (colour, shape, size)	silvery upper surface; narrow; smooth; glossy
Form	short shrub
Height	0.5 to 2 metres
Growth rate	fast
Fruit and flowers	white clusters of flowers forming late May to early June; small purple to black cherry fruit follows flowers
Soil	adapted to broad range of soil types and moisture conditions; prefers well drained sites
Limitations	short-lived; suckers form thickets; can experience winter die-back but will regrow

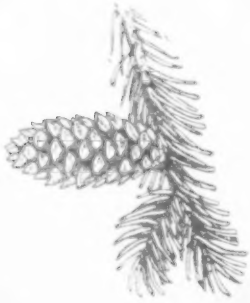


WHITE SPRUCE

Picea glauca (Moench) Voss.

Shade tolerant; well adapted to all areas of province except southwest; provides protection, food and shelter for birds and wildlife.

Type of tree	coniferous (native)
Bark (colour, texture)	gray to brown; flaky with age; underbark pinkish when outer surface scraped away
Leaves (colour, shape, size)	needle shaped; 2 centimetres; sharp; stiff; borne singly on stem
Form	pyramidal in shape
Height	20 to 25 metres
Growth rate	slow to medium
Fruit and flowers	winged seeds produced in light brown cones that range from 3 to 5 centimetres; mature in September.
Soil	trees perform best in moist, well-drained sandy loam soils; fair to poor alkali tolerance
Limitations	does not grow well on dry sites; requires protection during establishment

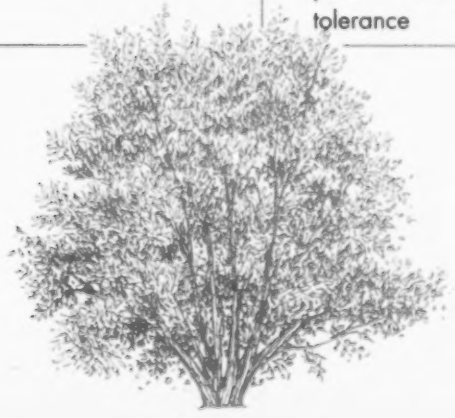


33 WILLOW (ACUTE)

Salix acutifolia Willd.

Valuable for wildlife habitat.

Type of tree	broadleaf (native)
Bark (colour, texture)	brownish-red
Leaves (colour, shape, size)	shiny dark green; 6 to 12 centimetres long; 1 to 2 centimetres wide; finely toothed margins
Form	wide spreading crown; trunk tends to have multiple stems
Height	5 to 14 metres
Growth rate	fast
Fruit and flowers	male and female flowers form catkins on separate trees during early spring; small fruit pods split when mature, releasing seeds on tufts of silky hair
Soil	performs well in most well-drained sites; but will withstand flooding for up to several weeks
	performs poorly in dry locations; spreading crown and roots may compete with crops when planted in shelterbelts; fair to good alkali tolerance



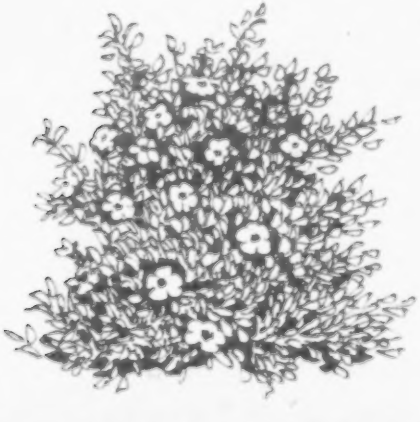
WOOD'S ROSE

34

Rosa woodsii Lindl.

Drought resistant; easy to establish; provides excellent cover for birds; rose hip is a favored food of sharp tailed grouse and pheasants; browsed by whitetail and mule deer.

Type of tree	broadleaf (native shrub)
Bark (colour, texture)	stems armed with broad bristles; flattened at base
Leaves (colour, shape, size)	compound with 5 to 9 oval leaflets; 15 to 35 millimetres long
Form	thicket-forming deciduous short shrub
Height	0.5 to 2 metres
Growth rate	slow to moderate
Fruit and flowers	solitary flowers ranging from pink to rose; 2 to 5 centimetres in diameter; bright red fruit – known as a hip – is almost circular; about 1 centimetre in diameter
Soil	adapted to wide range of soil types, including well to imperfectly drained sites
Limitations	suckers to form thickets



35 GLOSSARY

acidic: having a pH level of less than 7 on a scale of 1 to 14

alkali: having a pH level of 7 or greater on a scale of 1 to 14

alternate: single leaves placed at intervals along the stem

arid: very dry and hot climate

borne: produced

broadleaf: trees that usually shed their leaves; also known as hardwoods or deciduous

browse: shoots, twigs and leaves of trees and shrubs used by animals for food

catkin: slender, flexible, simple, compact cluster of flowers of same sex without petals

compound: leaf having several distinct blades on a common leaf stalk

coniferous: trees and shrubs, including pine, firs, spruces, cedars and other cone-bearing plants; leaves are scale-like or needles; usually evergreen

crown: live branches and foliage of the tree

drought tolerant: capacity of tree or plant to grow and thrive in very dry soil conditions

fire blight: bacterial disease characterized by shepherd's crooks

fissures: cracks; openings

furrow: marked narrow depression; groove

hectare: one hectare equals 2.47 acres

loam: loose-textured soil consisting of a mixture of sand, clay and organic matter

lobed: having curved or rounded projections or divisions

margin: edge of a leaf

needle: long and slender leaf as found on conifers, including pine and spruce

nutlet: small nut

opposite: leaves arranged in pairs at intervals along stem

samara: nutlet with wings

sand: coarse-textured, granular soil

scale: fleshy formations that may eventually become woody, arranged like leaves of tree around a central axis, but placed very close to one another to form a cone

serrated: toothed or notched like a saw

shade tolerant: capacity of tree or plant to develop and grow in shade of, or in competition with, other trees and plants

shelterbelt: one or a few rows of trees or shrubs planted to provide shelter and reduce adverse effects of wind such as soil erosion.

shrub: woody plant typically branching near the ground

silt: fine-textured soil composed of particles of rock and soil

sucker: characteristic by which some trees and shrubs send up new sprouts from their root system as a means of vegetative reproduction

vein: vascular bundles that form framework of leaf and are seen as lines along leaf

winter hardy: ability of plant to survive winter weather in a given region

NOTES

RESOURCES

AAFC/PFRA Shelterbelt Centre
P.O. Box 940, #2 Government Road
Indian Head, SK S0G 2K0
Phone: (306) 695-2284
www.agr.gc.ca/pfra/shelterbelt.htm
Email: pfratree@em.agr.ca

Evergreen
355 Adelaide Street West, Fifth Floor
Toronto, ON M5V 1S2
Phone: (416) 596-1495
Toll-free: 1-888-426-3138
Fax: (416) 596-1443
Gift of Nature: infobc@evergreen.ca
Email: info@evergreen.ca

Saskatchewan Nursery Trades Association
P.O. Box 9876
Saskatoon, SK S7K 7Z2
Phone: (306) 665-1454
Fax: (306) 665-1442
www.canadanursery.com/canadanursery/snta/index.lasso

Tree Canada Foundation
1550 – 220 Laurier Avenue West
Ottawa, ON K1P 5Z9
Phone: (613) 567-5545
Fax: (613) 567-5270
www.treecanada.ca
Email: dcs@treecanada.ca

SaskPower Shand Greenhouse
P.O. Box 280
Estevan, SK S4A 2A3
Phone: (306) 634-9771 or 1-866-SPTREES (1-866-778-7337)
Fax: (306) 634-6682
www.saskpower.com
Email: greenhouse@saskpower.com